

WHAT IS CLAIMED IS:

1. A method of controlling processing load in a packet data network, said method comprising the steps of:

setting a load control information in a predetermined field of a message;

routing said message in said packet data network;

checking said load control information on the routing path of said message; and

selecting a processing resource of said packet data network in response to the result of said checking step.

2. A method according to claim 1, wherein said predetermined field is a subfield of a user part of an address header.

3. A method according to claim 1, wherein said predetermined field is a via branch of a SIP message.

4. A method according to claim 3, further comprising the step of copying said load balancing information from another predetermined field to said predetermined field.

5. A method according to claim 2, wherein said address header is an URI of a SIP Route header.

6. A method according to claim 2, further comprising the step of providing a plurality of subfields in said user part for conveying different types of said load control information.

7. A method according to claim 6, wherein said user part is parsed and divided into said subfields.

8. A method according to claim 6, wherein at least one of structure, order and usage of said subfields is predetermined.

9. A method according to claim 6, wherein said subfield are separated by a predetermined bit string, character, or character string.

10. A method according to claim 1, wherein a virtual address is shared by a plurality of processor nodes.

11. A method according to claim 10, wherein said processor node has a call state control functionality of an IP- based cellular network.

12. A method according to claim 2, wherein said load control information comprises a first port number indicating a first port for receiving a request message.

13. A method according to claim 2, wherein said load control information comprises a second port number indicating a second port for receiving a response message.

14. A method according to claim 1, wherein said load control information comprises a first information indicating whether a session of said message is already existing.

15. A method according to claim 14, wherein said load control information comprises a second information indicating an identification of said existing session.

16. A method according to claim 14, wherein said load control information is stored in a Route header field, a Via header field, or a Contact header field of a SIP message.

17. A method according to claim 14, wherein said load control information is a hidden information not meaningful to other networks.

18. A method according to claim 14, wherein said load control information is set as a part of a host name of a header field.

19. A method according to claim 14, wherein said load control information is set as a parameter of a header field.

20. A method according to claim 14, wherein said load control information is set as a port number of a header field.

21. A method according to claim 20, wherein said port number is used for differentiating a first message from subsequent messages.

22. A method according to claim 14, wherein said load control information is set as an extension header field to a header field.

23. A method according to claim 14, wherein said load control information is set in a payload portion of said message.

24. A method according to claim 15, further comprising the steps of extracting said second information in response to a detection of said first information, and using said second information for said selection step.

25. A method of distributing load control information in a packet switched network, comprising the steps of:

- a) creating a first load control information in a first network element;
- b) setting said first load control information into a predetermined field of a message;
- c) routing said message to a second network element;
- d) storing said first load control information in said second network element;

e) creating a second load control information in said second network element;

f) setting said second load control information into a predetermined field of a second message;

g) routing said second message to said first network element and;

h) storing said second load control information at said first network element.

26. A network device for controlling processing load in a packet data network, said device comprising:

checking means for checking a load control information provided in a predetermined field of a message;

selecting means for selecting a processing resource for said message in response to said checking means.

27. A network device according to claim 26, wherein said network device comprises a call state control functionality of an IP-based cellular network.

28. A network device according to claim 26, wherein said selecting means is arranged to select a predetermined processor node to which said message is distributed.

29. A network device according to claim 26, wherein said selecting means is arranged to initiate creation of a new session.

30. A network device according to claim 29, wherein said load control information comprises a first information indicating whether a session of said message is already existing.

31. A network device according to claim 30, wherein said load control information comprises a second information for identifying said existing session.

32. A device for transmitting a message to a packet data network, said device being arranged to set into a predetermined field of said message a load control information for selecting processing resources of said packet data network.

33. A device according to claim 32, wherein said device comprises a call state control functionality of an IP-based cellular network.

34. A device according to claim 33, wherein said call state control functionality is a serving call state control functionality or a proxy call state control functionality.

35. A device according to claim 32, wherein said device is arranged to set said load control information in a user part of a header address of said message.

36. A device according to claim 35, wherein said header address is a SIP URI.

37. A device according to claim 32, wherein said device is arranged to set said load control information in a host name, a header parameter, a port number, or an extension header field of a header portion of said message, or in a payload portion of said message.

38. A device according to claim 37, wherein said load control information comprises a first information indicating whether a session of said message is already existing.

39. A device according to claim 38, wherein said load control information comprises a second information indicating said existing session.

40. A system for controlling processing load in a packet data network, said system comprising:

a first network element for setting a load control information in a predetermined field of a message to be routed in said packet data network;  
and

a second network element for checking said load control information on the routing path of said message; and for selecting a processing resource of said packet data network in response to the result of said checking step.

41. A system for distributing load control information in a packet switched network, said system comprising:

a first network element for creating a first load control information and for setting said first load control information into a predetermined field of a message; and

a second network element for receiving said message, for storing said first load control information, for creating a second load control information, for setting said second load control information into a predetermined field of a second message, and for routing said second load control information to said first network element;

wherein said first network element is adapted to store said second load control information.

42. A system according to claim 40, wherein said first and second network devices comprise a call state control functionality.